

Partnership Turns Tide On Island's Erosion



Photo: Chesapeake Bay residents have contributed tens of thousands of hours to plant grasses on Barren Island. Areas planted several years ago now resemble natural marshes. (National Aquarium of Baltimore)

Rising sea levels and erosion are causing the islands of Chesapeake Bay to rapidly slip from sight. Unique wildlife habitat is lost as the islands disappear. Isolated from the mainland, the islands provide desirable nesting sites for colonial water birds, bald eagles, and diamondback terrapins. In addition to their value to wildlife, the islands and surrounding tidal wetlands buffer the developed shoreline of Maryland's Eastern Shore from storms and ocean waves.

Barren Island, one of several national wildlife refuge islands forming a 60-mile archipelago through the middle of the bay, is one-tenth of its size less than a century ago. In an effort to stem the erosion, the Fish and Wildlife Service, National Aquarium in Baltimore (<http://www.aqua.org>), other Federal agencies and organizations, and community volunteers have worked together since 2000 to establish a salt marsh on the island.

The Service and the Army Corps of Engineers initially raised the elevation along the western edge of the island, which was losing ground a rate of up to 15 feet a year. Fortified with

geotextile bags, or geotubes, an area was filled in with excess clean dredge material from projects in the Bay, creating an intertidal zone suitable for later marsh planting.

More than a thousand Chesapeake Bay area residents have since contributed nearly 10,000 hours of time to the project. The National Aquarium, which strongly promotes public stewardship in its conservation program, organized its first volunteer planting event on the island in 2001. That summer, volunteers with the Aquarium's Conservation Team, students, national wildlife refuge friends groups, and local watershed and birding organizations planted 100,000 smooth cordgrass (*Spartina alterniflora*) plugs over approximately seven acres. An additional 18 acres along the western length of the island have been planted in subsequent seasons.

"The first time I went to Barren Island, it was truly barren. There wasn't an animal to be found on the mud flats," according to volunteer Ron Tillier.

"To see the tremendous change in Barren Island, and to have been a small part of that success, is a very rewarding experience. This project is a model on how to restore disappearing islands and how to rally volunteer support for their conservation," said volunteer Tom Hook.

The sites planted four and five years ago now resemble the natural marshes on the bay. They are frequented by fish, fiddler crabs, periwinkles, and wading birds. The more recently planted and maturing sites attract an increasing number of species each season. The Friends of Blackwater National Wildlife Refuge, with assistance from the Aquarium, will continue long-term monitoring and maintenance of the project sites.

"If we, as a society, are to restore ecosystems, the process must engage the community, apply good science, be conducted through a broad public-private partnership and do so as inexpensively as possible," said Glenn Page, director of conservation for the National Aquarium.

Barren Island is managed as part of the Chesapeake Marshlands National Wildlife Refuge Complex. It is one of a group of Chesapeake island refuges, including Eastern Neck and Martin, established in the mid-1900s to provide sanctuary for birds migrating along the Atlantic Flyway.

Terri Edwards, Public Affairs, Hadley, Massachusetts